

MICROMACHINED ULTRASONIC
TRANSDUCER CELLS HAVING
COMPLIANT SUPPORT STRUCTURE

ABSTRACT OF THE DISCLOSURE

A micromachined ultrasonic transducer array comprising a multiplicity of cMUT cells built on a substrate. Each cMUT cell comprises a compliant support structure built on the substrate, a membrane supported over a cavity by the compliant support structure, a first electrode supported by the membrane, and a second electrode that forms a capacitor with the first electrode, the cavity being disposed between the first and second electrodes. The compliant support structure uncouples the non-membrane outer surface of each cMUT cell from the supporting substrate.